



# EtherneTV-STB Set Top Box

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Set Top Box v3.7.3b  
Quick Start Guide



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VBrick is an active participant in the development of industry standards and continues to play an influential role in the Internet Streaming Media Alliance (ISMA), the MPEG Industry Forum, and Internet2. In 1998 VBrick invented and shipped the world's first MPEG Video Network Appliance designed to provide affordable DVD-quality video across the network. Since then, VBrick's video solutions have grown to include Video on Demand, Management, Security and Access Control, Scheduling, and Rich Media Integration. VBrick solutions are successfully supporting a broad variety of applications including distance learning and training, conferencing and remote office communications, security, process monitoring, traffic monitoring, business and news feeds to the desktop, webcasting, corporate communications, collaboration, command and control, and telemedicine. VBrick serves customers in education, government, healthcare, and financial services markets among others.

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# STB v3.7.3b Quick Start Guide

This guide explains how to get your EtherneTV Set Top Box up and running in a few easy steps as shown below. For more detailed installation and configuration instructions, see the *Set Top Box Admin Guide*.

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## Step 1. Choose a Start Mode

The first step is to choose a **Start** mode from among the following options. This determines how the Set Top Box will behave when started. A network administrator will generally determine the **Start** mode based on your network configuration. In Step 4, you will actually configure the **Start** mode.

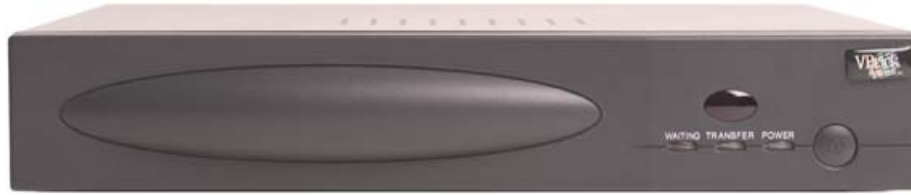
<b>MCS Mode</b>	When installed with an ETV Portal Server (formerly MCS), the features and options of the VBrick EtherneTV Set Top Box are controlled through the Portal Server. See the <i>ETV Portal Server Admin Guide</i> for more information.
<b>Local Mode</b>	The VBrick EtherneTV Set Top Box contains software that enables it to work as a standalone device. When used in standalone applications, the set top box features and options are similar to MCS Mode but are controlled locally—not by the ETV Portal Server.
<b>Local-Fullscreen Mode</b>	The VBrick EtherneTV Set Top Box also can operate in a fullscreen mode. This allows the user to tune in <b>one channel</b> and display the received stream on the entire screen of the attached monitor.

## Step 2. Connect the Set Top Box

The VBrick EtherneTV Set Top Box is shipped with Audio/Video, S-Video, and power cables and a handheld IR remote control unit. An optional wireless keyboard is also available.

▼ To connect the Set Top Box:

1. Using the provided cables, attach the set top box video out to a monitor using the left (yellow) connector or the S-Video connector.
2. Using the provided cables, connect the set top box audio out (left and right) to a monitor (left and right) monitor.
3. Using customer provided cables, connect the set top box to the network, using the left (LAN1) Ethernet port as viewed from the back of the unit.
4. The set top box comes configured to assign an IP address using DHCP. To find the IP address it is necessary to attach a keyboard using the PS/2 port connection or use the VBrick software application VBDirectory.
5. Connect the power cord, and if desired, connect a VGA monitor.



**Table 1. Front Panel – Left to Right**

Infrared Sensor	Above LEDs. Used for IR remote control and wireless keyboard.
Waiting	Blinks red during initial start-up.
Transfer	Blinks white when accessing flash memory.
Power	Steady green when power is applied.
On/Off	On/Off push button.



**Table 2. Rear Panel – Left to Right**

Power Plug	Connects to power cord.
VGA Port	Used to view video on a VGA monitor.
Serial Port	Used for Serial Port Passthrough or to open a Command Prompt.
PCI Card Slot	Not Used.
S-Video	Connect to standard TV.
Video	Composite video out.
Audio Left/Right	Audio out left and right.
USB Ports (2)	Connect USB mouse and/or keyboard.
SPDIF	Digital audio. Not supported.
LAN1	Connect to local area network.
LAN2	Not used.
PS/2	Connect PS/2 keyboard or mouse.

### Step 3. Set the IP Address

You need to know the IP address in order to run the web-based STB Admin Configuration application. By default, the set top box is configured for DHCP (Dynamic Host Configuration Protocol) and will automatically retrieve an IP address from a DHCP server if

present. If a DHCP server is not available, you can configure the set top box with a static IP address. The STB is set to a default IP address of **172.17.11.111** as a convenience. In most cases, this should be changed to avoid conflicts. You can find this IP address using a keyboard connected to the PS/2 port or by using a terminal connected to the serial port as explained below.

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**Note** By default, DHCP is used to retrieve a dynamic IP address for the STB. If you are not using a DHCP server, you must configure the STB to use a static IP address. The default static address is **172.17.11.111**.

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▼ To determine the STB IP address:

1. If a DHCP server is *present*, go to [Finding the DHCP IP Address](#) to determine the IP address of your STB in DHCP mode.
2. If a DHCP server is *not present*, go to [Assigning a Static IP Address](#) to manually assign an IP address other than the default.

## Finding the DHCP IP Address

▼ To determine the IP address of the set top box when configured using DHCP:

1. Connect a keyboard and TV monitor to the set top box and apply power. (Use the optional wireless keyboard or a PS/2 keyboard). Wait for the box to completely power up before continuing.
2. Press **Ctrl-Alt-F1** on the keyboard to open a Command Prompt window.
3. Login using **root** and **admin** for **User name** and **Password**. (To change the password, go to the Configuration: General > Security page in IWS.)
4. At the prompt type **ifconfig** and press **Enter**. This shows the IP address, the network interface configuration, and other parameters.
5. Reboot by powering the STB on and off using **Power** push button on front of unit.

## Assigning a Static IP Address

▼ To assign a static IP address using a Command Prompt window:

1. Connect a keyboard and TV monitor to the set top box and apply power. (Use the optional wireless keyboard or a PS/2 keyboard). Wait for the box to completely power up before continuing.
2. Press **Ctrl-Alt-F1** to open a Command Prompt window.
3. Login using **root** and **admin** for **User name** and **Password**. (To change the password, go to the Configuration: General > Security page in IWS.)
4. To enter the setup program, type **pman** and press **Enter**.
5. Select **Parameters** (using the arrow keys and **Enter**).
6. Select **Network > Ethernet**.
7. Change **DHCP Enable** to **Static**
8. When prompted, enter the default (case sensitive) user name and password: **root** and **admin**.
9. Click **Enter** to reach **OK** and then click **Enter**.
10. Change **DNS via DHCP** to **No**.
11. Select IP address using the down arrow and the **Enter** key. Using the keyboard, enter the IP address obtained from your network administrator and press **Enter**.

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12. Select and enter the **NetMask**, **Gateway** addresses, and **Hostname** using the same procedure as selecting the IP address above.
  13. Leave the Ethernet interface **Mode** of operation at the default **Auto** (auto-negotiate). (Other options are selectable but in most networks you should only select a different option if necessary to interoperate with your network equipment.)
  14. Enter the IP address of the Nameserver as follows:
    - a. Select **Network** (using the down arrow and **Enter** key).
    - b. Select **Network** again.
    - c. Select **Domain NameServer IP Addresses** and enter the Nameserver IP addresses. (If there is more than one, separate the entries with the pipe character (|), for example `172.16.1.11|172.16.1.10`.)
  15. When done, use the up arrow key to reach < . . . > and select using the **Enter** key on each screen. Answer **Yes** when prompted to apply changes and **Exit** to return to the user prompt level. *Wait until the changes are applied and the interface returns; otherwise the changes may be lost.*
  16. Reboot by powering the STB on and off using **Power** push button on front of unit.

## Step 4. Configure the Start Mode

Select the application Start Mode. This determines how the Set Top Box will behave when started. See the *STB Admin Guide* for more information.

### Setup for MCS Mode

▼ To configure the STB for MCS Mode:

1. On your PC, open Internet Explorer and enter the IP address of the EtherneTV-STB in the URL (address) window.
2. Log in as **root**.
3. Password **admin**.
4. Click on **Start**.
5. Click on **Configuration>Video>Setup>Start Mode**.
6. Select **MCS** from pull down menu.
7. Click on **Configuration>Video>Setup>MCS Location**.
8. Enter your ETV Portal Server IP address.
9. Click on **Apply**.
10. Click on **Logout**.
11. Click on **Exit**. The EtherneTV STB will restart in **MCS** mode.

### Selecting Video in MCS Mode

Use the IR remote control unit to **Watch live broadcasts** or **Browse video library** and use the left mouse button to enter. Alternately, you can press **TV** or **VOD** on the remote or select menu items by pressing **Menu**.

### Watching TV in MCS Mode

The **Watch live broadcasts** menu displays a list of multicast streams. Unless there is a channel assigned, the list is in alphabetical order and contains brief information about the program. The **Browse video library** provides a matching user interface.

## *Navigating in MCS Mode*

Select Channel	Using the handheld IR remote control and press the up/down channel button to highlight the desired channel selection. Once the stream is highlighted, use the <b>Select</b> IR remote control button to start the selected video in the Preview Window.
Play Control	To <b>Stop</b> , <b>Start</b> and <b>Pause</b> the video, use the buttons on the bottom of the preview window or use the buttons along the top of the IR remote control unit. (Note that the video must be playing before control buttons on the IR remote control unit or on the screen can be used.)
Channel Assignments	If the entry has been assigned a specific channel assignment, it will appear to the left of the text. Channel assignments are made in the ETV Portal Server configuration. For more information, see the <i>ETV Portal Server Admin Guide</i> .
Full Screen	Press <b>Full Screen</b> on the IR remote for full screen viewing; press again to exit full screen viewing.
Exit Full Screen	To exit full screen, press the <b>Full Screen</b> (blue) button on the IR remote control.

## Setup for Local Mode

▼ To configure the STB for Local (standalone) Mode:

1. On your PC, open Internet Explorer and enter the IP address of the STB in the URL address window.
2. Log in as **root**.
3. Password **admin**.
4. Click on **Start**.
5. Click on **Configuration > Video Setup > Start Mode**.
6. Select **Local** from pull down menu.
7. Click on **Apply**.
8. Click on **Logout**.
9. Click on **Exit**. The EtherneTV STB will restart in **Local** mode.

## *Selecting Video in Local Mode*

Press the up/down **Channel** button on the remote control to highlight the desired selection. Once the stream is highlighted, use the (yellow) **Select** button to start the selected stream.

## *Watching TV in Local Mode*

The menu displays a list of multicast streams and contains brief information about the program.

## *Navigating in Local Mode*

An XML file defines the stream addresses and port numbers when operating in Local mode. In most cases this file will need to be modified to reflect your actual network. See [Sample XML File Entries](#) below for instructions to modify this file. Note that a video must be playing before control buttons on the IR remote control unit or on the screen can be used.

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Select Channel	Using the handheld IR remote control, press the up/down <b>Channel</b> button to highlight the desired selection. Once the stream is highlighted, use the (yellow) <b>Select</b> button to start the selected video in the Preview Window.
Play Control	To <b>Stop</b> , <b>Start</b> and <b>Pause</b> the video, use the buttons on the bottom of the preview window or use the buttons along the top of the IR remote control unit.
Channel Assignments	If specific entries are desired, see the <a href="#">Modifying the Local Mode XML File</a> below or refer to the XML Configuration Examples in the <i>STB Admin Guide</i> .
Full Screen Mode	Press <b>Full Screen</b> on the IR remote for full screen viewing; press again to exit full screen viewing.
Exit Full Screen Mode	To exit full screen, press the <b>Full Screen</b> (blue) button on the IR remote control.

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### ***Modifying the Local Mode XML File***

This file is edited for **Local** mode installations only and does not apply when operating in **MCS** or **Local-Fullscreen** mode. Below is an excerpt of the local XML file that contains local mode program information. This file will need to be modified for each network installation so that IP addresses, port numbers, encoder types and program listings correspond to actual network settings. A keyboard must be attached or use the wireless keyboard available from VBrick to make these changes. See the *STB Admin Guide* for detailed XML configuration examples.

▼ To access the XML configuration file:

1. Press **Ctrl-Alt-F1** keys simultaneously
  2. Type `cd /wfs/localui`
  3. Type `ls`
  4. Locate the file `stbLocalUIData.xml`
  5. After the file has been modified to contain the correct addressing and title information, it must be saved using the correct text editor tools.
  6. To return to the view mode, press **Ctrl-Atl-F2**.
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**Note** This XML file can be edited locally using a text editor (such as vi, included with the system) or it can be uploaded to a Windows desktop, modified with Notepad, and downloaded to the STB.

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### ***Sample XML File Entries***

```
<!-- this is MPEG4 multicast live stream with SDP file stored locally-->
<Stream type="SDP">
  ProgramName>Sample MPEG4 multicast through SDP file stored locally </
ProgramName>
  <Message>SDP file stored locally</Message>
  <SDP>file:///wfs/mpg/mySDP.sdp</SDP>
</Stream>

<!-- this is MPEG2 live stream -->
```



```
<Stream type="MPEG2">
  <ProgramName>Sample MPEG2 stream</ProgramName>
  <Message>This is CNN.</Message>
  <Channel>2</Channel>
  <IP>239.16.120.3</IP>
  <Port>4444</Port>
</Stream>
```

### ***FTPing Files to the Set Top Box***

Use this method when moving xml files in **Local** mode or running MPEG-4 multicast with an SDP file.

- ▼ To decode multicast MPEG-4 in **Local** mode, one method is to place an SDP file on the set top box:

1. First, obtain an SDP file for the MPEG-4 multicast stream. (See the *VB4000-5000-6000 Admin Guide* for more about SDP files.)
2. Then use an FTP client to place the SDP file on the set top box. A sample FTP session is shown below;

```
C:\> ftp 172.22.117.70
User (172.22.117.70:(none)): root
Password: admin
ftp> bin
ftp> cd wfs/mpg (cd wfs/localui for the xml file)
ftp> put vbs1d1.sdp
ftp> bye
C:\>
```

### **Setup for Local-Fullscreen Mode**

- ▼ To configure the STB for **Local-Fullscreen** mode:
1. On your PC, open Internet Explorer and enter the IP address of the EtherneTV-STB in the URL address window.
  2. Log in as **root**.
  3. Password **admin**.
  4. Click on **Start**.
  5. Click on **Configuration > Video > Setup > Start Mode**.
  6. Select **Local-Fullscreen** from pull down menu.
  7. Click on **Receive Address**. (See the table below for some common stream types; see the *STB Admin Guide* for a complete list.)
  8. Enter the appropriate parameter syntax with IP address based on table below.
  9. Click **Apply**.
  10. Click **Logout**.
  11. Click **Exit**. The EtherneTV-STB will restart with **Local-Fullscreen** displayed.

**Table 3.** Receive Address Syntax

Stream Type	Command Syntax
Multicast MPEG-1	RTSP@MULTICAST_MPEG1://multicast address:port/
Multicast MPEG-2	RTSP@MULTICAST_MPEG2_TRANSPORT://multicast address:port/
Multicast MPEG-4 (local)	RTSP@ISMA_SDP_FILE:///wfs/<path to file> (e.g. RTSP@ISMA_SDP_FILE:///wfs/mpg/currentmp4.sdp)

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Stream Type	Command Syntax
Multicast MPEG-4 (remote)	<code>http://&lt;ipaddr&gt;/&lt;path to sdp file&gt;</code> (e.g. <code>http://172.22.2.2/myPath/myStream.sdp</code> )
Unicast MPEG-1	<code>RTSP@UNICAST_MPEG1://#dataPort=&lt;port&gt;</code>
Unicast MPEG-2	<code>RTSP@UNICAST_MPEG2_TRANSPORT://#dataPort=&lt;port&gt;</code>
RTSP MPEG-1 (EtherneTV-NXG)	<code>RTSP@KASENNA_MPEG1://&lt;ipaddr&gt;/program</code>
RTSP MPEG-2 (EtherneTV-NXG)	<code>RTSP@KASENNA_MPEG2_TRANSPORT://&lt;ipaddr&gt;/program</code>
RTSP MPEG-1 (EtherneTV-VOD W)	<code>RTSP@INFOVALUE_MPEG1://&lt;ipaddr&gt;/program</code>
RTSP MPEG-2 (EtherneTV-VOD W)	<code>RTSP@INFOVALUE_MPEG2_TRANSPORT://&lt;ipaddr&gt;/program</code>
RTSP MPEG-4	<code>RTSP@ISMA://&lt;ip addr&gt;/program</code>

### ***Watching TV in Local-Fullscreen Mode***

In this mode the STB will display the stream you selected in Step 8 above. It covers the entire screen and there are no user controls available. **Volume** and **Mute** are the only controls available from either the wireless keyboard or the IR handheld remote control. When the STB is running in **Local-Fullscreen** mode, you can only view one channel and it is displayed at full screen on the monitor. You cannot select other videos or navigate to other channels.





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